



## **COUNCIL OF GRADUATE SCHOOLS**

### **Guidelines for Recognition as a Professional Science Master's Program**

#### **Preamble**

The Professional Science Master's (PSM) degree is a unique professional degree grounded in natural science, technology, engineering, mathematics and/or computational sciences<sup>1</sup> and designed to prepare students for direct entry into a variety of career options in industry, business, government, or non-profit organizations. It is a distinctive advanced degree for those intending to pursue a career in the practice of science. PSM programs prepare graduates for high-level careers in science that have a strong emphasis on such skill areas as management, policy, entrepreneurship. PSM graduates are expected to progress toward leadership roles. Thus, the PSM differs from both a coursework only degree and a research master's degree in that the PSM incorporates an internship and an employer based project. The PSM produces graduates highly valued by employers by combining advanced, graduate coursework in science and/or mathematics with an appropriate component of professional skills development and by including an experiential learning component appropriate to the targeted employment sector. The experiential learning frequently involves an internship and provides an opportunity for students to demonstrate proficiency in written and oral communication skills.

PSM programs inherently include intellectual content and learning activities from more than one field of study. As such, they are multidisciplinary in nature and may be interdisciplinary as well. For example, professional skills components may include business basics, policy, law, regulatory affairs, finance, organizational behavior, ethics, communication, and teamwork. Thus, coursework and learning activities are often developed in collaboration with appropriate academic units outside the sciences. Further, adjunct faculty members from targeted employment sectors may enhance students' learning experiences.

Because PSM programs are professionally focused, an active and engaged advisory board composed of representatives of employer organizations who are in leadership positions is essential. Functions performed by boards and/or by individual board members include providing advice on the program curriculum, assisting with student projects, assisting with student placement, and interacting individually with students.

Ordinarily, master's degree programs in fields where accrediting bodies exist or those that have been traditionally offered as training toward professional licensure or certification (such as public health, most genetic counseling, some engineering degrees) are not appropriate for PSM designation. Programs aimed at training educators are not eligible for PSM designation.

Programs recognized as PSM programs use the official PSM logo on their websites and on other marketing materials, are listed on the [sciencemasters.com](http://sciencemasters.com) website, and have access to PSM promotional materials and activities offered by the Council of Graduate Schools (CGS) through a grant from the Alfred P. Sloan Foundation. PSM recognition provides assurance that the program conforms to nationally accepted criteria. Recognized PSM programs agree to use the name "Professional Science Master's" and the PSM logo on websites and other promotional materials.

The following components are essential for a master's program to qualify for PSM recognition.

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<sup>1</sup> Knowledge is commonly advanced in these fields by an active research community engaged in peer-reviewed research typically using quantitative methods.

## Guidelines for Recognition of Professional Science Master's Programs

The following criteria must be met by PSM programs. In unique cases, exceptions may be considered when a compelling rationale is provided.

- 1) The institution must be accredited by a regional accrediting association, or in the case of international applicants, a recognized organization or appropriate governing body that accredits or recognizes institutions of higher learning.
- 2) A program must have stated goals and learning outcomes appropriate to the particular degree.
- 3) The total number of credits must be at least equivalent to the minimal number required for a master's degree at the institution.
- 4) Programs must include the following three components:
  - a) a majority of the course content in the natural sciences, technology, engineering, mathematics and/or computational sciences. The determination of "majority" may be based on the number of credits in #3 above, but in that case additional explanation is required ([see FAQ for examples](#));
  - b) a professional skills component must be developed in consultation with leaders from the targeted industry, business, government, or non-profit organizations; and
  - c) an experiential component that must include at least one capstone project, supervised collaboratively by faculty and employers, evaluated or graded by faculty and typically developed with an employer(s), which integrates the practical application of scientific and professional knowledge, behavior, and skills. The experiential component typically includes a structured internship and provides an opportunity for students to demonstrate proficiency in written and oral communication skills.
- 5) Program quality assurance must be provided using the faculty-based mechanisms normally used by the institution for graduate programs in order to ensure that the program is fully integrated into the academic offerings of the institution and that it is sustainable over time.
- 6) An active and engaged advisory board of leaders from industry, business, government, or non-profit organizations is required.
- 7) The program must collect annual data relative to enrollment, degrees, completion, and demographics; and the employment history of graduates should be tracked to help assess program outcomes.

Interested persons should refer to the "[Guidelines for CGS Recognition as a Professional Science Master's Program](#)." The guidelines are intended to provide guidance to faculty planning new PSM programs or to assist leaders of existing programs that meet the criteria to be designated a PSM or who wish to modify their programs in order to be designated a PSM.

Universities wishing to seek recognition of their master's degree programs as Professional Science Master's Degrees should carefully review the "[Guidelines for CGS Recognition as a Professional Science Master's Program](#)" then complete the [PSM Affiliation Application Form](#) and submit it electronically to the Council of Graduate Schools. A separate application form is required for *each* program, track, or concentration within a discipline.